

INSTRUCTIONS

PHILCO MODEL 7051 TUBE TESTER

Operates on 110-120 volts, 60 cycles, a.c.

Tube Complement: 1—6X5 (rectifier).

Short Indicator Lamp: Neon lamp, $\frac{1}{4}$ watt, 105-125 volts, screw base.

Pilot Lamp: 6-8 volts.

Test Methods Employed

The Philco Model 7051 Tube Tester uses the emission test for quality determination. The control settings given in the chart, with the average run of normal tubes, will provide readings near the central portion of the GOOD area on the meter; with a little practice, the operator will be able to determine the differences in readings for normal, slightly weak, and dead tubes. A separate quality test is applied to each section of multi-purpose tubes.

The *short test* gives positive indication of a short existing between one element of a tube and any one (or more) of the remaining elements.

Ballast tubes may also be tested in the Model 7051 Tube Tester; see the ballast-tube section of the chart for operating instructions.

Supplementary Tube Data

In order to keep the tube-test chart for the Philco Model 7051 Tube Tester up to date, Philco will, from time to time, issue data for the testing of newly released tubes. Contact your Philco distributor for this information.

Spare Socket Holes

One additional socket hole (covered by a bakelite cap) is provided on the panel of the tester. It may be used for installing a socket to accommodate a special-purpose tube, or may be reserved for tubes of future development.

PHILCO CORPORATION
ACCESSORY DIVISION
PHILADELPHIA 34, PA.

HOW TO OPERATE THE PHILCO MODEL 7051 TUBE TESTER

For correct operation of this tester, the following procedure should be used:

1. Line Control

Insert the power-cord plug into a 110-to-120-volt, 60-cycle power source. Turn the LINE control to the right (clockwise) from the OFF position, and note that the PILOT Indicator Lamp glows. Hold the TEST control in the LINE position, and adjust the a-c voltage by turning the LINE control until the meter pointer is over the LINE CHECK mark in the center of the scale. Leave the LINE control in this position, and release the TEST control.

2. Filament Control

Refer to the data in the chart for the type of tube to be tested, and turn the FIL. (filament voltage) control to the position indicated in the *Filament Control* column.

3. Toggle Switches

Nine toggle switches, operating in slots marked with letters at each end, are used to switch the separate tube elements into the neon-lamp a-c circuits when making the *short test*, or to connect the proper elements to the rectified-voltage supply and meter when making the *quality test*, as directed by the chart.

Each of these switches has three positions. Before proceeding with any test, make sure that the switches are set according to the instructions given below, under SHORT TEST. Tubes must not be inserted in the sockets until all switches are set to their proper positions; otherwise, damage to the tube tester or the tube may result.

4. Short Test

a. Before placing the tube in the tester, refer to the toggle-switch setting, listed in the *Short Test* column, for the type of tube to be tested. For many types of tubes, one or more toggle-switch settings are indicated by *small* letters. Before the tube is placed in the socket, the switches thus indicated must be set to these positions; the switches indicated by the large letters

are manipulated, as described below, after the tube is placed in the socket. If no large letters appear, the small letters indicate the complete short test (in one operation).

b. To make the *short test*, observe the SHORT Indicator Lamp while throwing the toggle switches, *one at a time*, to the positions indicated in the chart by *large* letters; return each switch to its center position before operating the next switch. If the lamp glows steadily when one or another of the switches is thrown to its listed position, a shorted tube is indicated.

Note: When each toggle switch is in its *short test* position, if there is no glow of the lamp, it is advisable to tap the tube on its sides with the fingers. If this causes flashes of light or a steady glow in the lamp, *intermittently shorting* tube elements are indicated, and the tube should be replaced.

For a few types of tubes, *two* of the letters indicating toggle-switch positions are topped by a heavy line. The two switches thus identified must be operated *at the same time*, to prevent a false short indication.

5. Quality Test

a. Turn the LOAD control to the position indicated for the type of tube to be tested, in the *Load Control* column of the chart.

b. Place the toggle switches in the positions indicated in the *Quality Test* column of the chart. If no toggle-switch settings are indicated for the quality test, the switches should remain in their center positions.

c. Turn the TEST control to the QUALITY position, and read the condition of the tube on the meter.

d. It will be noted that for certain types of tubes (multi-purpose), the chart lists two or three LOAD-control and toggle-switch combinations. Make the *Quality Test* as directed in steps a, b, and c above, for each of the combinations given.

Note: To aid in localizing radio and tube troubles, the classifications of *sections* of multi-purpose tubes, according to the grouping of elements, are listed in the *Tube Section* column.

Replacing Rectifier Tube (6X5) in Model 7051 Tube Tester

If the tube tester should fail to give any meter indications, or should give false readings on tubes of known condition, the trouble is probably caused by failure of the type 6X5 rectifier tube; this tube may be replaced as follows:

1. Remove the power-cord plug from the a-c power source.
2. Remove the ten Phillips machine screws from around the edges of the front panel.
3. Lift the tester from its case, replace the rectifier tube, and reassemble the tester.

Replacing Short Indicator Lamp in Model 7051 Tube Tester

The neon lamp used for the *short test* may be replaced without removing the tester from its case. The lamp used is a $\frac{1}{4}$ -watt, 105-to-125-volt, screw-base bulb.

NOTE:

Improved versions of tubes are occasionally brought out after the original design, and are usually identified by adding a letter after the original type designation. Unless specifically listed on the chart, these tubes should be tested in accordance with the data given for the original type.

BALLAST TUBE TESTING WITH THE PHILCO MODEL 7051 TUBE TESTER

The Philco Model 7051 Tube Tester gives a complete continuity test on ballast tubes, providing a separate test for each ballast section. To test ballast tubes, proceed as follows:

1. Turn the LINE control on.
2. Turn the LOAD control to position 1.
3. Set the TEST control to SHORT.
4. Set the FIL control to position 0.
5. Throw all toggle switches to their center positions, and insert the ballast tube in the tester.
6. Refer to the following chart for the listing of the type of tube to be tested. For a tube having more than one ballast section, the combinations of toggle-switch settings required for testing the separate sections are listed one below the other, and enclosed in a box.

7. Observe the SHORT Indicator Lamp as the switches are set. If the lamp *glows* steadily with the switches set to the indicated combination, the tube (or the section under test) is good. If the lamp *fails to glow* with the switches set to *any one* of the indicated combinations, the tube has an open section, and should be replaced.

Note A: With some ballast tubes, the SHORT Indicator Lamp will normally glow before the toggle switches are operated; the tube test, however, depends upon the glowing of the lamp when the switches are set to the indicated combinations.

Note B: A continuity test between pin 7 and other pins cannot be made on the tester; this test must be made with an ohmmeter.

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 1A1 | R | 2LR212 | A G |
| 1B1 | R | 2UR224 | A G |
| 1C1 | R | 2VR215 | A G |
| 1D1 | R | 3 | R |
| 1D2 | A B | 3CR241 | GS CGS CG |
| 1E1 | R | 3ER248 | GS CGS CG |
| 1E2 | A B | 3.25 | A G |
| 1F1 | R | 4 | R |
| 1G1 | R | 4A1 | R |
| 1J1 | R | 4A21 | R |
| 1K1 | R | 4XR308 | GS CGS CG |
| 1L1 | R | 5 | R |
| 1N1 | R | 5B | D F |
| 1P1 | R | 5E1 | R |
| 1Q1 | R | 6B | D F |
| 1R1G | R | 6.125 | GS CGS CG |
| 1S1G | R | | |
| 1T1G | R | | |
| 1U1 | R | | |
| 1V1 | R | | |
| 1W1 | BS | | |
| 1X1 | R | | |
| 1Y1 | R | | |
| 1Z1 | R | | |
| 2 | R | | |

KEY TO TUBE-SECTION DESIGNATIONS

BP Beam Power
D Diode
H Hexode

Hp Heptode
M Mixer
Os Oscillator

P Pentode
T Triode
TE Tuning Eye
Te Tetrode

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|----------------|------------------|----------------------------|---------------|------------------------------|--------------|
| 00A | 5 | ABCDEF | 9 | | |
| 0Y4 | 1 | | 8 | ACT | Gas |
| 0Z4 | 0 | ABCDEF | 14 | CT | |
| 01A | 5 | ABCDEF | 9 | | |
| 1A3 | 1 | eAFB | 11 | BE | |
| 1A4 | 1 | AB | 8 | T | |
| 1A5GT | 1 | ABCDEF | 4 | | |
| 1A6 | 2 | ABCDEF | 4 | | |
| 1A7GT | 1 | ABCDEF | 9 | | |
| 1AB5 | 1 | cghABF | 6 | CGH | |
| 1AF4 | 1 | eBF | 6 | E | |
| 1AF5 | 1 | BDEF | 6 14 | B DEF | P D |
| 1AX2 | 1 | abghnp | 14 | ABGHNPT | D |
| 1B3GT | 1 | kmop | 8 | KMOPT | |
| 1B4 | 2 | ABCDEF | 4 | | |
| 1B5 1B5/25S | 2 | ABCDEF | 9 14 14 | BD ACD ABC | T D D |
| 1B7GT | 1 | ABCDEF | 6 | | |
| 1B8GT | 1 | ABCDEF Grid Cap | 4 4 | B ADE* | BP T |
| 1C5GT | 1 | ABCDEF | 6 | | |

00A
to
1C5GT

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|---------------|------------------------------|--------------|
| 1C6 | 2 | ABCDEF | 4 14 | AC BD | Os M |
| 1C7G | 2 | ABCDEF | 9 2 | AD BET* | Os M |
| 1D5G | 2 | ABCDEF | 4 | | |
| 1D7G | 2 | ABCDEF | 9 | | |
| 1D8GT | 1 | ABCDEF | 6 8 | ABCD E* | T P |
| 1E4G | 1 | ABCDEF | 4 | | |
| 1E5GT | 2 | ABCDEF | 4 | | |
| 1E7G/GT | 2 | ABCDEF | 4 4 | AD BE | P P |
| 1F4 | 2 | ABCDEF | 6 | | |
| 1F5G | 2 | ABCDEF | 6 | | |
| 1F6 | 2 | ABCDEF | 4 11 11 | BC ABD* ACD* | P D D |
| 1F7G | 2 | ABCDEF | 4 11 11 | DE ABD* ABE* | P D D |
| 1G4GT | 1 | ABCDEF | 4 | | |
| 1G5G | 1 | ABCDEF | 6 | | |
| 1G6GT | 1 | ABCDEF | 4 4 | AD BE | T T |
| 1H4G | 2 | ABCDEF | 4 | | |
| 1H5GT | 1 | ABCDEF | 6 8 | E A* | T D |

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 1H6G | 2 | ABCDEF | 4 8 8 | DE ABD ABE | T D D |
| 1J5G | 2 | ABCDEF | 6 | | |
| 1J6G/GT | 2 | ABCDEF | 6 6 | AD BE | T T |
| 1L4 | 1 | eABF | 13 | E | |
| 1L6 | 1 | BDEF | 9 | | |
| 1LA4 | 1 | ABCDEF | 13 | | |
| 1LA6 | 1 | ABCDEF | 4 14 | AEF BD | Os M |
| 1LB4 | 1 | ABCDEF | 6 | | |
| 1LB6 | 1 | ABCDEF | 4 | | |
| 1LC5 | 1 | eghABDF | 6 | EGH | |
| 1LC6 | 1 | ABCDEF | 13 | | |
| 1LD5 | 1 | ABCDEF | 6 | | |
| 1LE3 | 1 | ABCDEF | 6 | | |
| 1LG5 | 1 | oABCDF | 10 | O | |
| 1LH4 | 1 | ABCDEF | 13 11 | D AF | T D |
| 1LN5 | 1 | oABCDF | 6 | O | |
| 1N5GT | 1 | ABCDEF | 6 | | |
| 1N6GT | 1 | ABCDEF | 4 14 | B ADE | P D |
| 1P5GT | 1 | ABCDEF | 6 | | |
| 1Q5GT | 1 | ABCDEF | 7 | | |
| 1R4/1294 | 1 | ACD | 8 | C | |
| 1R5 | 1 | eABCDF | 6 | E | |

1C6
to
1R5

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 1S4 | 1 | eBCD | 7 | E | |
| 1S5 | 1 | ABCDEF | 10 | | |
| 1SA6 | 1 | ABCD | 13 | | |
| 1T4 | 1 | eABCDF | 10 | E | |
| 1T5GT | 1 | ABCDEF | 6 | | |
| 1U4 | 1 | eABF | 4 | E | |
| 1U5 | 1 | ABCDE | 4 | | |
| 1U6 | 1 | BDEF | 8 | | H |
| 1V | 6 | ABCDEF | 5 | B | |
| 1V2 | Cannot be tested | | | | |
| 1X2A | 1 | abghnp | 8 | ABGHNPT | D |
| 1Z2 | 1 | | 4 | BDFKOT | |
| 2A3 | 3 | ABCDEF | 5 | | |
| 2A4G | 3 | eABCDF | 11 | E | |
| 2A5 | 3 | ABCDEF | 7 | C | |
| 2A6 | 3 | ABCDEF | 7 | BCD | T |
| | | | 11 | ABC* | D |
| | | | 11 | ACD* | D |
| 2A7 | 3 | ABCDEF | 7 | ACD | Os |
| | | | 11 | BCE | M |
| 2A7S | 3 | ABCDEF | 5 | C | |
| 2AF4 | 3 | bnrsAFE | 4 | BNERS | UHF T |
| 2B6 | 3 | ACDEF | 7 | C | |
| 2B7 | 3 | ABCDEF | 4 | BCE | P |
| | | | 8 | ABCD* | D |
| | | | 8 | ACDE* | D |
| 2C4 | 2 | BDE | 5 | D | |

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|----------------|------------------|----------------------------|--------------|------------------------------|--------------|
| 2C21/1642 | 6 | ABCDE | 6 6 | ABCE ACD* | T T |
| 2C22 | 6 | C | 8 | CT | |
| 2C26 | 6 | C | 8 | CT Plate Cap | |
| 2D21 | 6 | begnAF | 4 | ABEGNS | |
| 2E5 | 3 | ABCDEF | 6 | C | |
| 2E24 | 4 | bdfhACE* | 7 | BCDFH | |
| 2E26 | 6 | bdfAE | 5 | BDF | |
| 2E30 | 4 | bdAEF | 7 | BDS | |
| 2G5 | 3 | ABCDEF | 6 | C | |
| 2S/4S | 2 | ABC | 8 8 | AC BC | D D |
| 2T4 | 3 | bnrsAFE | 4 | BNERS | UHF T |
| 2V2 | 1 | ehlmn | 8 | EHLMT | |
| 2V3G | 3 | Grid Cap | 8 | T | |
| 2W3GT | 3 | mABDEF | 4 | M | |
| 2X2 | 3 | ABCDEF | 2 | T | |
| 2X2A | 3 | Cap | 4 | T | |
| 2X2/879 | 3 | ABCDEF | 2 | T | |
| 2Y2 | 2 | Cap | 4 | GHT | |
| 2Z2 2Z2/G84 | 3 | ABCDEF | 4 | | |
| 3A2 | 4 | abghnp | 4 | ABGHNP | T |
| 3A3 | 4 | Kmop | 8 | KMOPT | |
| 3A4 | 1 | ehAFBD | 6 | EH | |
| 3A5 | 1 | dhABEF | 6 6 | ABDH DEFH | T T |

1S4
to
3A5

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|---------------|------------------------------|--------------|
| 3A8GT | 1 | ABCDE | 6 4 4 | CEPG EPGH CPGH | P D T |
| 3AL5 | 4 | benACFG | 2 2 | BNR BEN | D D |
| 3AU6 | 4 | bngAEF | 2 | ABNGS | P |
| 3AV6 | 4 | bnAEFGS | 4 11 11 | ABEFNRS ABENG ABFNG | T D D |
| 3B5GT | 1 | hcADE | 6 | HM | |
| 3B7/1291 | 1 | dhABC | 4 4 | ABDH CDFH | T T |
| 3BA6 | 4 | bgnAEF | 11 | BGN | |
| 3BC5 | 4 | bnrAGEF | 2 | ABGNT | |
| 3BE6 | 4 | bnAEFGS | 11 | ABN | |
| 3BN6 | 4 | bnAEFG | 2 | BNRT | |
| 3BY6 | 4 | bnAEFGS | 11 | ABN | |
| 3BZ6 | 4 | bnrAEFG | 4 | ABGNT | |
| 3C5GT | 1 | cABDEF | 2 | CH | |
| 3C6/XXB | 1 | cABDEF | 6 6 | AC AM | T T |
| 3CB6 | 4 | bnrAGEF | 4 | ABGNT | |
| 3CF6 | 4 | bnrAGEF | 11 | ABGN | P |
| 3CS6 | 4 | bnAEFGS | 14 | ABN | |
| 3D6/1299 | 1 | chABF | 7 | CH | |
| 3E5 | 1 | ehABD | 4 | EH | P |
| 3E6 | 1 | chABDF | 5 | CH | |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|----------------------------------|
| 3LE4 | 1 | cABDEF | 6 | C | |
| 3LF4 | 1 | chABF | 7 | CH | |
| 3Q4 | 1 | ehAFBD | 4 | EH | |
| 3Q5GT | 1 | mABDEF | 7 | MG | |
| 3S4 | 1 | ehAFBC | 4 | EH | |
| 3V4 | 1 | ehABD | 4 | EH | |
| 4A6G | 2 | mgABDEF | 6 6 | AMDG BMEG | T T |
| 4BQ7 | 6 | ABCDEF | 2 2 | ADEF BCEF | T ₁ T ₂ |
| 4BZ7 | 5 | CDEF | 3 3 | ADEF BCEF | T T |
| 5AM8 | 5 | ABDEF | 3 3 | AC A | D P |
| 5AN8 | 5 | eABCDF | 4 5 | BCEF ADE | T P |
| 5AQ5 | 5 | bgnAEF | 8 | ABGN | |
| 5AS8 | 5 | ABCDEF | 2 2 | F E | D P |
| 5AT8 | 5 | ABCDEF | 3 14 | BCEF ADE | T P |
| 5AU4 | 5 | mABDEF | 4 | MD BM | D D |
| 5AV8 | 5 | ABCDEF | 4 4 | A C | T P |
| 5AW4 | 5 | mABDEF | 4 4 | MD BM | D ₁ D ₂ |
| 5AX4GT | 5 | m | 10 10 | BM DM | D D |

3A8GT
to
5AX4GT

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Lead Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------------|-------------------|------------------------------|----------------------------------|
| 5AZ4 | 5 | aDF | 9 9 | AD AF | D D |
| 5BE8 | 5 | ABCDEF | 4 | EF | |
| 5BK7 | 5 | ABCDEF | 2 2 | ADEF BCEF | T ₁ T ₂ |
| 5J6 | 5 | bnAEFG | 2 2 | ABGNS BGN | T T |
| 5R4GY | 5 | mABDEF | 4 4 | BM DM | D D |
| 5T4 | 5 | mABDEF | 7 7 | MD BM | D D |
| 5T8 | 5 | ABCDF | 10 7 5 5 | ABC ACF BCF ABCEF | T D D D |
| 5U4G | 5 | mABDEF | 4 4 | MD BM | D D |
| 5U8 | 5 | ABDEF $\overline{C}\overline{F}$ | 3 | Cannot be tested ACF | T P |
| 5V4G | 5 | mABDEF | 4 4 | MD BM | D D |
| 5V6GT | 5 | ABCDEF | 5 | C | |
| 5W4GT | 5 | mABDEF | 4 4 | MD BM | D D |
| 5X3 | 5 | AB | 4 | | |
| 5X4G | 5 | cABDEF | 4 4 | AC CE | D D |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|---------------|------------------|----------------------------|--------------|------------------------------|--------------|
| 5X8 | 5 | ABCDEF | 2 | BDE ABCF | P T |
| 5Y3GT | 5 | mABDEF | 4 4 | MD BM | D D |
| 5Y4G | 5 | cABDEF | 4 4 | AC CE | D D |
| 5Z3 | 5 | ABCDEF | 4 4 | A B | D D |
| 5Z4G | 5 | mABDEF | 4 4 | BM MD | D D |
| 6A3 | 6 | ABCDEF | 5 | | |
| 6A4 6A4/LA | 6 | ABCDEF | 7 | | |
| 6A5G | 4 | mABDEF | 5 | MG | |
| 6A6 | 6 | ABCDEF | 7 7 | ADE BCE | T T |
| 6A7 | 6 | ABCDEF | 7 11 | ACD BCE | M Os |
| 6A7S | 6 | ABCDEF | 5 | C | |
| 6A8GT | 6 | ABCDEF | 7 11 | ACD BCE | M Os |
| 6AB4 | 6 | bnSG | 3 | BNSG | |
| 6AB5/6N5 | 6 | ABCDEF | 10 | C | |
| 6AB6G | 6 | ABCDEF | 6 | C | |
| 6AB7/1853 | 6 | ABCDEF | 3 | E | |
| 6AC5GT | 6 | ABCDEF | 7 | C | |
| 6AC7/1852 | 6 | ABCDEF | 3 | E | |
| 6AD6G | 6 | ABCDEF | 14 | CT | |

5A4
to
8AD6G

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Lead Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 6AD7G | 6 | ABCDEF | 6 7 | ACD C | T P |
| 6AE5G | 6 | ABCDEF | 5 | C | |
| 6AE5GT | 6 | ABCDEF | 3 | C | |
| 6AE6G | 6 | ABCDEF | 7 | C | |
| 6AE7GT | 6 | ABCDE | 7 7 | C E | T T |
| 6AF4 | 6 | bnrs \overline{A} FE | 4 | BNERS | UHF T |
| 6AF5GT | 6 | ABCDEF | 5 | C | |
| 6AF6G | 6 | ABCDEF | 14 | CT | |
| 6AG5 | 6 | bnr \overline{A} GEF | 2 | ABGNT | |
| 6AG7 | 6 | ABCDEF | 3 | E | |
| 6AH4 | 6 | CEF | 1 | C | T |
| 6AH5G | 6 | BCDF | 2 | C | |
| 6AH6 | 6 | bnrAEF | 1 | BGNS | |
| 6AH7GT | 6 | csABDEF | 6 6 | ACDF BCDE | T T |
| 6AJ4 | 6 | abefgmDS | 14 | ABDEFGMS | |
| 6AJ5 | 6 | abgnEFS | 2 | ABGNS | |
| 6AK5 | 6 | abgnEFS | 2 | ABGNS | |
| 6AK6 | 6 | bnAEFG | 7 | BGNS | |
| 6AL5 | 6 | benACFG | 2 2 | BNR BEN | D D |
| 6AL7GT | 6 | ABCDEF | 11 | C | |
| 6AM4 | 6 | abefgmDS | 14 | ABDEFGMS | |
| 6AM8 | 6 | ABDEF | 3 3 | AC A | D P |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|---------------|------------------------------|--------------|
| 6AN4 | 6 | bnrsAFE | 4 | BNERS | UHF T |
| 6AN5 | 6 | abgnEF | 3 | ABGNS | |
| 6AN6 | 6 | F | 11 11 | BDEF ADEF | D D |
| 6AN8 | 6 | eABCDF | 4 5 | BCEF ADE | T P |
| 6AQ5 | 6 | bgnAEF | 8 | ABGN | |
| 6AQ6 | 6 | bnrsAG | 2 | ABNRS | |
| 6AQ7GT | 6 | bcADEF | 7 12 12 | ABCF BCDEF ABCDE | T D D |
| 6AR5 | 6 | bnAEFS | 11 | ABN | |
| 6AR6 | 6 | bmAEFG | 4 | BFMR | |
| 6AR8 | 6 | ABCDEG | 3 | C | |
| 6AS5 | 6 | bnAEFG | 5 | BNR | |
| 6AS6 | 6 | bnAEFG | 2 | ABGNS | |
| 6AS7 | 6 | csABDEF | 3 3 | ACS BCS | T T |
| 6AS8 | 6 | ABCDEF | 2 2 | F E | D P |
| 6AT6 | 6 | bnEFG | 4 11 11 | ABEFNRS ABENG ABFNG | T D D |
| 6AT8 | 6 | ABCDEF | 3 14 | BCEF ADE | T P |
| 6AU4 | 6 | cAE | 4 | AC | |
| 6AU5 | 6 | ACEF | 3 | A | P |

6AD7G
to
6AU5

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------------------|------------------------------|--------------|
| 6AU6 | 6 | bngAEF | 2 | ABNGS | P |
| 6AU7 | 6 | hABCDEF | 7 7 | EH FH | T T |
| 6AU8 | 6 | ABCDEF | 3 3 | A B | T P |
| 6AV5 | 6 | ACEF | 1 | A | P |
| 6AV6 | 6 | bnAEFGS | 4 11 11 | ABEFNRS ABENG ABFNG | T D D |
| 6AW8 | 6 | ABCDEF | 2 2 | ABCF ABDE | T P |
| 6AX4GT | 6 | cAE | 5 | AC | D |
| 6AX5GT | 6 | ACE | 10 10 | AC EC | D D |
| 6AX7 | 6 | hBCDEF | 7 7 | DEFH BCEF | T T |
| 6AX8 | 6 | ABDECF | Cannot be tested 3 AC | | T P |
| 6AZ8 | 6 | ABCE \overline{D} F | 4 | CEF | |
| 6B4G | 6 | ABCDEF | 5 | | |
| 6B5 | 6 | ABCDEF | 10 | C | |
| 6B6G | 6 | ABCDEF | 5 9 8 | CDE ACD* ACE* | T D D |
| 6B7 | 6 | ABCDEF | 6 8 8 | BCE ACDE* ABCD* | P D D |

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|----------------|------------------------------|----------------------------------------------------|
| 6B8G | 6 | ABCDEF | 6 8 8 | CDE ABCE* ABCD* | P D D |
| 6BA6 | 6 | bgnAEF | 11 | BGN | |
| 6BA7 | 6 | ABCDEF | 3 | E | |
| 6BC4 | 6 | aBCDEF | 2 | AB | |
| 6BC5 | 6 | bnrAGEF | 2 | ABGNT | |
| 6BC7 | 6 | acBDEF | 3 3 3 | ABCDE ACDEF ABCEF | D ₁ D ₂ D ₃ |
| 6BD4 | 6 | EF | 8 | F | |
| 6BD5GT | 6 | ACF | 3 | A | |
| 6BD6 | 6 | bnrAEF | 7 | BGNS | |
| 6BE6 | 6 | bnAEFGS | 11 | ABN | |
| 6BF5 | 6 | bnrsAEF | 4 | ABGN | |
| 6BF6 | 6 | bnrsAEF | 10 10 10 | ABEFNRS ABEGNS ABFGNS | T D ₂ D ₁ |
| 6BG6G | 6 | ACE | 5 | A | |
| 6BH6 | 6 | bgnAEF | 3 | ABGNS | |
| 6BJ6 | 6 | bgnAEF | 3 | ABGNS | |
| 6BK4 | 6 | E | 8 | ABCDF | |
| 6BK5 | 6 | ABCEF | 4 | B | |
| 6BK6 | 6 | bnEFG | 14 8 8 | ABEFNRT ABEGN ABFGN | T D ₂ D ₁ |
| 6BK7 | 6 | ABCDEF | 2 | ADEF BCEF | T ₂ T ₁ |

6AUG
to
6BK7

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Lead Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|----------------|
| 6BL4 | 6 | csA | 3 | A | |
| 6BL7GT | 6 | csABDEF | 2 | ABCF | T |
| | | | 2 | ABCDES | T |
| 6BN6 | 6 | nbAEFG | 2 | BNRT | |
| 6BQ6 | 6 | ACDEF | 2 | C | P |
| 6BQ6GT | 6 | CED | 9 | ABCEF | |
| 6BQ7 | 6 | ABCDEF | 2 | ADEF | T ₁ |
| | | | | BCEF | T ₂ |
| 6BT6 | 6 | bnEFG | 11 | ABEFNRT | T |
| | | | 8 | ABEGN | D |
| | | | 8 | ABFGN | D |
| 6BX7 | 6 | csABDEF | 4 | ABCF | T ₁ |
| | | | 4 | ABCDES | T ₂ |
| 6BY5 | 6 | FC | 5 | CDF | D |
| | | | 5 | CEF | D |
| 6BY6 | 6 | bnAEFGS | 11 | ABN | |
| 6BZ6 | 6 | bnrAEFG | 4 | ABGNT | |
| 6BZ7 | 6 | CDEF | 3 | ADEF | T |
| | | | 3 | BCEF | T |
| 6C4 | 6 | bnsFG | 2 | BGNS | |
| 6C5GT | 6 | ABCDEF | 7 | C | |
| 6C6 | 6 | ABCDEF | 7 | C | |
| 6C7 | 6 | ABCDEF | 7 | BCE | T |
| | | | 8 | ABC* | D |
| | | | 8 | ACE* | D |
| 6C8G | 6 | ABCDEF | 7 | BCDE | T |
| | | | 7 | ACD* | T |
| 6CA5 | 6 | bnAEFG | 3 | BNR | |

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|----------------|
| 6CB5 | 6 | ABCDEF | 4 | AB | |
| 6CB6 | 6 | bnrAGEF | 4 | ABGNT | |
| 6CD6G | 6 | ACE | 10 | AE | |
| 6CF6 | 6 | bnrAGEF | 11 | ABGN | P |
| 6CG7 | 6 | ABCDEF | 7 | F | T ₁ |
| | | | 7 | E | T ₂ |
| 6CL6 | 6 | adEFC | 8 | AD | P |
| 6CM6 | 6 | ABEC | 4 | C | |
| 6CM7 | 6 | ABEC \overline{E} EF | 4 | AEF | T ₁ |
| | | | 4 | | T ₂ |
| 6CR6 | 6 | bnAEFG | 12 | ABN | P |
| | | | 11 | BEFGN | D |
| 6CS6 | 6 | bnAEFGS | 14 | ABN | |
| 6CU6 | 6 | ACDEF | 4 | C | P |
| 6D4 | 6 | bnER | 3 | BENR | |
| 6D5G | 6 | ABCDEF | 7 | C | |
| 6D6 | 6 | ABCDEF | 7 | C | |
| 6D7 | 6 | ABCDEF | 7 | C | |
| 6D8G | 6 | ABCDEF | 10 | ACD | O _s |
| | | | 11 | BCE | M |
| 6DB6 | 6 | bnrAGEF | 4 | ABGNT | |
| 6DC6 | 6 | bnrAEFS | 14 | ABNR | |
| 6DE6 | 6 | bnrAGEF | 2 | ABGNT | |
| 6DG6 | 6 | ABCDEF | 4 | C | |
| 6DQ6 | 6 | ACDEF | 4 | C | |
| 6E5 | 6 | ABCDEF | 6 | C | |

6BL4
to
6E5

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 6E6 | 6 | ABCDEF | 10 10 | ADE BCE | T T |
| 6E7 | 6 | ABCDEF | 7 | C | |
| 6F5GT | 6 | ABCDEF | 5 | C | |
| 6F6GT | 6 | ABCDEF | 7 | C | |
| 6F7 | 6 | ABCDEF | 10 4 | BCE ACD* | P T |
| 6F8G | 6 | ABCDEF | 5 2 | BCDE ACD* | T T |
| 6G6G | 6 | ABCDEF | 7 | C | |
| 6H4GT | 6 | ABCDEF | 10 | C | |
| 6H6GT | 6 | ABCDEF | 7 7 | ACD CDE | D D |
| 6J4 | 6 | befnAR | 1 | ABGNS | |
| 6J5GT | 6 | ABCDEF | 5 | C | |
| 6J6 | 6 | bnAEFG | 2 2 | ABGNS BGN | T T |
| 6J7GT | 6 | ABCDEF | 7 | C | |
| 6J8G | 6 | ABCDEF | 2 2 | BCE ACD* | Hp T |
| 6K5GT | 6 | ABCDEF | 7 | C | |
| 6K6GT | 6 | ABCDEF | 7 | C | |
| 6K7GT | 6 | ABCDEF | 2 | C | |
| 6K8GT | 6 | ABCDEF | 11 2 | BCE ACD* | H T |
| 6L5G | 6 | ABCDEF | 7 | C | |
| 6L6G | 6 | ABCDEF | 5 | C | |

*Grid cap off.

6E6
to
6R7GT

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|---------------------|-------------------------------------|-----------------|---------------------------------------|-----------------|
| 6L7G | 6 | ABCDEF | 7 5 | ACDE C | Os M |
| 6N4 | 6 | bngAFES | 4 | ABFNRS | |
| 6N5 | 6 | ABCDEF | 10 | C | |
| 6N6G | 6 | ABCDEF | 10 | C | |
| 6N7GT/G | 6 | ABCDEF | 7 7 | ACD BCE | T T |
| 6P5GT | 6 | ABCDEF | 7 | C | |
| 6P7G | 6 | BCDEF | 7 11 | KBCG KCDE | P T |
| 6Q6G/6T7G | 6 | ABCDEF | 5 8 8 | CDE ACD* ACE* | T D D |
| 6Q7GT | 6 | ABCDEF | 7 8 8 | CDE ACD* ACE* | T D D |
| 6Q7MG | 6 | ABCDEF | 5 8 8 | CDE ACD* ACE* | T D D |
| 6R6G | 6 | ABCDEF | 7 | C | P |
| 6R7 | 6 | ABCDEF | 7 8 8 | CDE ACD* ACE* | T D D |
| 6R7G | 6 | ABCDEF | 10 8 8 | CDE ACD* ACE* | T D D |
| 6R7GT | 6 | ABCDEF | 7 8 8 | CDE ACD* ACE* | T D D |

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 6S4 | 6 | D | 5 | D | |
| 6S7G | 6 | ABCDEF | 7 | C | |
| 6S8GT | 6 | ceABDFS | 4 8 | ACE BCDEF* | T&D D |
| 6SA7GT | 6 | ABCDEF | 5 | B | |
| 6SB7Y | 6 | ABCDEF | 3 | B | |
| 6SC7GT | 6 | cABDEF | 7 7 | ABCH BCDE | T T |
| 6SD7GT | 6 | ABCDEF | 2 | E | |
| 6SF5GT | 6 | cABDEF | 5 | C | |
| 6SF7G/GT | 6 | cABDE | 8 11 | ABCD ACE | D P |
| 6SG7G/GT | 6 | aeBCDF | 2 | AEF | |
| 6SH7GT | 6 | aeBCDF | 3 | AE | |
| 6SJ7GT | 6 | ABCDEF | 5 | E | |
| 6SK7GT | 6 | ABCDEF | 5 | E | |
| 6SL7GT | 6 | csABDEF | 7 7 | ABCF ABCDES | T T |
| 6SN7GT | 6 | csABDEF | 2 2 | ABCF ABCDES | T T |
| 6SQ7GT | 6 | cABDEF | 7 8 8 | ACDES ABCD ABCE | T D D |
| 6SR7GT | 6 | cABDEF | 7 8 8 | ACDES ABCD ABCE | T D D |
| 6SS7 | 6 | ABDE | 7 | E | |

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|-------------------|------------------------------|------------------|
| 6ST7 | 6 | cABDEFG | 4 11 11 | ACDES ABCD ABCE | T D D |
| 6SU7GT | 6 | csABDEF | 7 7 | ABCF ABCDES | T T |
| 6SV7 | 6 | cABDEF | 3 3 | AECS ADBC | T D |
| 6SZ7 | 6 | cABDEF | 4 11 11 | ACDES ABCD ABCE | T D D |
| 6T4 | 6 | bnrs \overline{A} FE | 4 | BNERS | UHF T |
| 6T5 | 6 | ABCDEF | 6 | C | |
| 6T7G | 6 | ABCDEF | 7 8 8 | CDE ACD* ACE* | T D D |
| 6T8 | 6 | ABCDF | 10 7 5 5 | ABC ACF BCF ABCEF | T D D D |
| 6U5/6G5 | 6 | ABCDEF | 6 | C | |
| 6U6GT | 6 | ABCDE | 2 | C | |
| 6U7G | 6 | ABCDEF | 7 | C | |
| 6U8 | 6 | ABDEF \overline{C} F | 3 | Cannot be tested ACF | T P |
| 6V3 | | Cannot be tested | | | |
| 6V5G | 6 | cABDEF | 5 | C | |
| 6V6GT/G | 6 | ABCDEF | 5 | C | |

6S4
to
6V6GT/G

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 6V7G | 6 | ABCDEF | 7 8 8 | CDE ACD* ACE* | T D D |
| 6W4GT | 6 | cAE | 3 | AC | |
| 6W5G | 6 | ABCDEF | 7 7 | AC CE | D D |
| 6W6GT | 6 | ABCDEF | 3 | C | |
| 6W7G | 6 | ABCDEF | 5 | C | |
| 6X4 | 6 | bgnF | 4 4 | BFGNS BGN | D D |
| 6X5GT/G | 6 | ABCDEF | 7 7 | AC CE | D D |
| 6X8 | 6 | ABCDEF | 2 | BDE ABCF | P T |
| 6Y3G | 6 | Cap | 4 | GHT | |
| 6Y5 | 6 | ABCDEF | 5 5 | BC BD | D D |
| 6Y6GT | 6 | ABCDEF | 1 | C | |
| 6Y7G | 6 | ABCDEF | 7 7 | ACD BCE | T T |
| 6Z3 | 6 | ABCDEF | 5 | B | |
| 6Z4/84 | 6 | ABCDEF | 7 7 | AC BC | D D |
| 6Z5 | 6 | kBCDEF | 4 4 | KBC KBD | D D |
| 6Z7G | 6 | ABCDEF | 5 5 | ACD BCE | T T |

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-------------|------------------|----------------------------|--------------|------------------------------|--------------|
| 6ZY5G | 6 | ABCDEF | 7 7 | AC CE | D D |
| 7A4 | 6 | ABCDEF | 5 | C | |
| 7A5 | 6 | ABCDEF | 3 | C | |
| 7A6 | 6 | ABCDEF | 4 4 | ABC ACF | D D |
| 7A7 | 6 | ABCDEF | 5 | C | |
| 7A8 | 6 | ABCDEF | 11 10 | BCD ACEF | M Os |
| 7AB7 / 1204 | 6 | adfgmB | 10 | ABDFGMS | T |
| 7AD7 | 6 | ABCDEF | 3 | C | |
| 7AF7 | 6 | ABCDEF | 2 2 | A C | T T |
| 7AG7 | 6 | eABCDF | 3 | CE | |
| 7AH7 | 6 | ABCDEF | 3 | C | |
| 7AJ7 | 6 | ABCDE | 5 | CE | |
| 7AK7 | 6 | ABCDEF | 3 | C | P |
| 7AU7 | 6 | hABCDEF | 7 7 | EH FH | T T |
| 7B4 | 6 | ABCDEF | 5 | C | |
| 7B5 | 6 | ABCDEF | 7 | C | |
| 7B6 | 6 | cdABEF | 2 8 8 | CDEF ABCDE ABCDF | T D D |
| 7B7 | 6 | ABCDEF | 7 | C | |
| 7B8 | 6 | ABCDEF | 11 7 | BCD ACEF | M Os |
| 7C4/1203A | 6 | CD | 4 | C | |
| 7C5 | 6 | ABCDEF | 5 | C | |

6V7G
to
7C5

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|---------------|------------------------------|--------------|
| 7C6 | 6 | cdABEF | 7 8 8 | CEDF ABCDE ABCDF | T D D |
| 7C7 | 6 | ABCDEF | 7 | C | |
| 7D7 | 6 | ABCDEF | 3 | C | |
| 7E5/1201 | 6 | asBCDF | 2 | ADFS | |
| 7E6 | 6 | cdABEF | 7 8 8 | CDEF ABCDE ABCDF | T D D |
| 7E7 | 6 | ABCDEF | 6 11 11 | BCD ABCEF ACDEF | P D D |
| 7F7 | 6 | ABCDEF | 7 7 | A C | T T |
| 7F8 | 6 | agmBDEF | 6 6 | ABDEM R ADEF GMS | T T |
| 7F8/S | 6 | agmBDEF | 6 6 | ABDEM R ADEF GMS | T T |
| 7G7/1232 | 6 | ABCDEF | 1 | C | |
| 7G8/1206 | 6 | ABCDEF | 2 2 | BCEF ABDF | Te Te |
| 7H7 | 6 | ABCDEF | 2 | C | |
| 7J7 | 6 | ABCDEF | 7 7 | ACD BCD | T Hp |
| 7K7 | 6 | ABCDEF | 11 11 7 | ABCDE ABCDF ACEF | D D T |
| 7L7 | 6 | ABCDEF | 2 | C | |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|---------------|------------------------------|--------------|
| 7N7 | 6 | ABCDEF | 7 7 | A C | T T |
| 7Q7 | 6 | ABCDEF | 5 | C | |
| 7R7 | 6 | ABCDEF | 5 11 11 | BCD ACDEF ABCEF | P D D |
| 7S7 | 6 | ABCDEF | 4 4 | ACDE BC | T Hp |
| 7V7 | 6 | ABCDEF | 1 | C | |
| 7W7 | 6 | cdABEF | 2 | CD | |
| 7X6 | 6 | AC | 3 3 | ABC AFC | D D |
| 7X7 | 6 | cdABEF | 4 4 4 | ABCDE ABCDF CDEF | D D T |
| 7Y4 | 6 | ABCDEF | 7 7 | BC CF | D D |
| 7Z4 | 6 | BCDF | 4 4 | CDF BCD | D D |
| 10 | 7 | ABCDEF | 4 | | |
| 12A | 5 | ABCDEF | 7 | | |
| 12A5 | 6 | mgADEF* | 7 | BMG | |
| 12A6GT | 8 | ABCDEF | 7 | C | |
| 12A7 | 8 | ABCDEF | 6 5 | BCE ACDE* | P D |
| 12A8GT | 8 | ABCDEF | 11 7 | BCE ACD | M Os |

7C6
to
12A8GT

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Lead Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|---------------|------------------------------|--------------|
| 12AB5 | 8 | AFBEC | 4 | C | |
| 12AH7 | 8 | csABDEF | 4 4 | ACDF BCDE | T T |
| 12AH7GT | 8 | ABCDEF | 3 | E | |
| 12AL5 | 8 | benACFG | 5 5 4 | BNR BENS ABEFNRS | D D T |
| 12AQ5 | 8 | bgnAEF | 8 | ABGN | |
| 12AT6 | 8 | bnEFG | 11 11 | ABENG ABFNG | D D |
| 12AT7 | 6 | hABCDEF | 3 3 | FH EH | T T |
| 12AU6 | 8 | bgnAEF | 3 | BGNS | |
| 12AU7 | 6 | hABCDEF | 7 7 | EH FH | T T |
| 12AV5 | 8 | ACEF | 1 | A | P |
| 12AV6 | 8 | bnAEFGS | 4 11 11 | ABEFNRS ABEGN ABFGN | T D D |
| 12AV7 | 6 | hABCDEF | 14 14 | CFH DEH | T T |
| 12AW6 | 8 | bnrAEF | 3 | ABNRS | |
| 12AX4GT | 8 | cAE | 5 | AC | D |
| 12AX7 | 6 | hBCDEF | 7 7 | DEFH BCEFH | T T |
| 12AY7 | 6 | hABCDEF | 4 4 | FH EH | T T |
| 12AZ7 | 6 | hABCDEF | 3 3 | ADEFH BCEFH | T T |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 12B4 | 8 | oA | 1 | OA | T |
| 12B7G | 8 | ABCDEF | 5 | C | |
| 12B8GT | 8 | dABCEF | 5 5 | BCEF ABDF* | P T |
| 12BA6 | 8 | bnAEFGS | 3 | BGNS | |
| 12BA7 | 8 | ABCDEF | 3 | E | |
| 12BD6 | 8 | abnEFGS | 4 | ABGNS | |
| 12BE6 | 8 | bnAEFGS | 11 | ABN | |
| 12BF6 | 8 | bnAEF | 10 | ABEFNRS | T |
| | | | 11 | ABNEG | D |
| | | | 11 | ABNFG | D |
| 12BH7 | 6 | hCDEF | 3 | BCEFH | T |
| | | | 3 | ADEFH | T |
| 12BK5 | 8 | AB \overline{C} EF | 4 | B | |
| 12BK6 | 8 | bnEFG | 14 | ABEFNRT | T |
| | | | 8 | ABEGN | D |
| | | | 8 | ABFGN | D |
| 12BQ6GT | 8 | ACEDF | 2 | C | |
| 12BR7 | 6 | hABCDEF | 3 | EH | T |
| | | | 4 | BFH | D |
| | | | 4 | CFH | D |
| 12BV7 | 6 | behACDF | 4 | ABEH | |
| 12BY7 | 6 | beAF | 4 | ABE | P |
| 12BZ7 | 6 | hABCDEF | 3 | FH | T |
| | | | 3 | EH | T |
| 12C5 | 8 | bnA \overline{E} FG | 5 | BNR | |
| 12C8 | 8 | ABCDEF | 6 | CDE | |

12AB5
to
12C8

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|------------------|-------------------------------------|---------------------------------------------------------|
| 12CR6 | 8 | bnAEFG | 12 11 | ABN BEFGN | P D |
| 12CS6 | 8 | bnAEFGS | 14 | ABN | |
| 12CU6 | 8 | ACDEF | 4 | C | P |
| 12DQ6 | 8 | ACDEF | 4 | C | |
| 12E5GT | 8 | ABCDEF | 10 | C | |
| 12F5GT | 8 | ABCDEF | 5 | C | |
| 12G4 | 8 | bnsFG | 4 | BNGS | T |
| 12H6 | 8 | ABCDEF | 7 7 | ACD CDE | D D |
| 12J5GT | 8 | ABCDEF | 5 | C | |
| 12J7GT | 8 | ABCDEF | 7 | C | |
| 12K7GT | 8 | ABCDEF | 7 | C | |
| 12K8GT | 8 | ABCDEF | 11 2 | BCE ACD | T H |
| 12L6GT | 8 | ABCDEF | 2 | C | |
| 12L8GT | 8 | bACDEFS | 5 | B | |
| 12Q7GT | 8 | ABCDEF | 5 8 8 | CDE ACD* ACE* | T D D |
| 12S8GT | 8 | ceABDF* | 7 8 8 8 | ACDEF ABCEF* BCDEF* ABCDE* | T D ₁ D ₂ D ₃ |
| 12SA7GT | 8 | ABCDEF | 5 | B | |
| 12SC7 | 8 | cABDEF | 6 6 | ABCH BCDE | T T |

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|----------------|------------------------------|--------------|
| 12SF5GT | 8 | cABDEF | 2 | C | |
| 12SF7G/GT | 8 | cABDE | 8 11 | ABCD ACE | D P |
| 12SG7 | 8 | aeBCDF | 2 | AEF | |
| 12SH7GT | 8 | aeBCDF | 3 | AE | |
| 12SJ7GT | 8 | ABCDEF | 5 | E | |
| 12SK7GT | 8 | ABCDEF | 5 | E | |
| 12SL7GT | 8 | csABDEF | 7 7 | ABCF ABCDES | T T |
| 12SN7GT | 8 | csABDEF | 2 2 | ABCF ABCDES | T T |
| 12SQ7GT | 8 | cABDEF | 7 8 8 | ACDES ABCD ABCE | T D D |
| 12SR7GT | 8 | cABDEF | 7 8 8 | ACDES ABCD ABCE | T D D |
| 12SW7 | 8 | cABDEF | 10 11 11 | ACDEFS ABCDF ABCEF | T D D |
| 12SX7 | 8 | cADEFBS | 7 7 | ABCF ABCDES | T T |
| 12V6GT | 8 | ABCDEF | 5 | C | |
| 12W6GT | 8 | ABCDEF | 3 | C | |
| 12X4 | 8 | bgnF | 4 4 | BFGNS BGN | D D |
| 12Z3 | 8 | ABCDEF | 3 | B | |
| 14 | 8 | ABCDEF | 2 | C | |

12CR6
to
14

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Short Test | Tube Section |
|-----------|------------------|----------------------------|---------------|----------------------------|--------------|
| 14A4 | 8 | ABCDEF | 5 | C | |
| 14A5 | 8 | ABCF | 7 | C | |
| 14A7/12B7 | 8 | ABCDEF | 5 | C | |
| 14AF7 | 8 | ABCDEF | 7 7 | A C | T T |
| 14B6 | 8 | cdABEF | 7 | CD | |
| 14B8 | 8 | ABCDEF | 11 7 | BCD ACEF | M Os |
| 14C5 | 8 | ABCDEF | 5 | C | |
| 14C7 | 8 | ABCDE | 5 | C | |
| 14E6 | 8 | cdABEF | 7 8 8 | CDEF ABCDE ABCDF | T D D |
| 14E7 | 8 | ABCDEF | 6 11 11 | BCD ABCEF ACDEF | P D D |
| 14F7 | 8 | ABCDEF | 7 7 | A C | T T |
| 14F8 | 8 | agmBDEF | 6 6 | ABEMR ADEFGMS | T T |
| 14H7 | 8 | ABCDEF | 3 | C | |
| 14J7 | 8 | ABCDEF | 5 | C | |
| 14N7 | 8 | ABCDEF | 7 7 | A C | T T |
| 14Q7 | 8 | ABCDEF | 2 | C | |
| 14R7 | 8 | ABCDEF | 5 11 11 | BCD ACDEF ABCEF | P D D |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|-------------------|------------------------------------------|------------------|
| 14S7 | 8 | ABCDEF | 4 4 | ACDE BC | T Hp |
| 14W7 | 8 | cdABEF | 4 | CD | |
| 14X7 | 8 | cdABEF | 4 4 4 | ABCDE ABCDF CDEF | D D T |
| 14Y4 | 8 | ABCDEF | 7 7 | BC CF | D D |
| 14Z3 | 8 | ABCDEF | 3 | B | |
| 15 | 2 | ABCDEF | 6 | C | |
| 17 | 8 | ABCDEF | 6 | C | |
| 18 | 8 | ABCDEF | 7 | C | |
| 19 | 2 | ABCDEF | 6 6 | AD BC | T T |
| 19AU4 | 9 | cAE | 4 | AC | |
| 19BG6G | 9 | ACE | 5 | A | |
| 19C8 | 9 | ghABCD \overline{C} EF | 5 5 5 2 | ABCEFGH BCDEFGH ACDEFGH ABCDEGH | D D D T |
| 19J6 | 9 | bnAEFG | 3 3 | ABGNSE BGNF | T T |
| 19T8 | 9 | ABCDF | 10 7 5 5 | ABC ACF BCF ABCEF | T D D D |
| 19V8 | 9 | BE | 6 3 3 | DE ABE ABDEF | T D D |

14A4
to
19V8

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 20 | 4 | ABCDEF | 4 | | |
| 20J8 | 10 | ABCDEF | 2 2 | BCE ACD* | Hp T |
| 22 | 4 | ABCDEF | 12 | | |
| 24A | 3 | ABCDEF | 7 | C | |
| 25A6GT | 10 | ABCDEF | 5 | C | |
| 25A7GT | 10 | ABCDEF | 2 2 | ACDEF BCF | D P |
| 25AC5GT | 10 | ABCDEF | 5 | C | |
| 25AV5 | 10 | ABCEF | 1 | A | P |
| 25AX4 | 10 | cA | 4 | AC | D |
| 25B5 | 10 | ABCDEF | 7 | C | |
| 25B6G | 10 | ABCDEF | 1 | C | |
| 25B8GT | 10 | ABCEF | 5 5 | B F | T P |
| 25BK5 | 10 | AB \overline{C} EF | 4 | B | |
| 25BQ6GT | 10 | CDE | 1 | C | |
| 25C6G | 10 | ABCDEF | 3 | C | |
| 25CA5 | 10 | bnA \overline{E} FG | 3 | BNR | |
| 25CU6 | 10 | ACDEF | 4 | C | P |
| 25D8GT | 10 | ABCDEF | 2 | F | |
| 25DN6 | 10 | ACE | 3 | A | |
| 25DQ6 | 10 | ACDEF | 4 | C | |
| 25L6GT | 10 | ABCDEF | 2 | C | |
| 25N6G | 10 | ABCDEF | 6 | C | |

*Grid cap off.

20
to
28Z5

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube section |
|-----------|---------------------|-------------------------------------|-----------------|---------------------------------------|-----------------|
| 25S | 2 | ABCDEF | 9 14 14 | BD ABC ACD | T D D |
| 25W4GT | 10 | cAE | 3 | AC | |
| 25X6GT | 10 | ABCDEF | 7 7 | C D | D D |
| 25Y4GT | 10 | ABCDEF | 2 | C | |
| 25Y5 | 10 | ABCDEF | 7 7 | ABD BCD | D D |
| 25Z4GT | 10 | ABCDEF | 1 | C | |
| 25Z5 | 10 | ABCDEF | 3 3 | ABD BCD | D D |
| 25Z6GT | 10 | ABCDEF | 3 3 | ACD CDE | D D |
| 26 | 1 | ABCDEF | 13 | | |
| 26A6 | 10 | bnAEF | 3 | BGNS | |
| 26A7 | 10 | bACDEF | 3 3 | ABD BCF | P P |
| 26BK6 | 10 | bnEFG | 14 8 8 | ABEFNRT ABEGN ABFGN | T D D |
| 26C6 | 10 | bnAEFG | 10 11 11 | ABEFNRS ABFGN ABEGN | T D D |
| 26D6 | 10 | bnAEFG | 3 | ABNRS | |
| 27 | 3 | ABCDEF | 10 | C | |
| 28D7 | 10 | ABCDEF | 2 | F | |
| 28Z5 | 8 | dhBCF | 6 6 | BCDH CDFH | D D |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|----------------|------------------|----------------------------|--------------|------------------------------|--------------|
| 30 | 2 | ABCDEF | 4 | | |
| 31 | 2 | ABCDEF | 4 | | |
| 32 | 2 | ABCDEF | 4 | | |
| 32L7GT | 10 | ABCDEF | 3 3 | ACDEF BCF | D P |
| 33 | 2 | ABCDEF | 10 | | |
| 34 | 2 | ABCDEF | 4 | | |
| 35/51 | 3 | ABCDEF | 10 | C | |
| 35A5 | 10 | ABCDEF | 3 | C | |
| 35B5 | 11 | bnrsAEF | 3 | ABNRS | |
| 35C5 | 10 | bgnAEF | 5 | BGN | |
| 35L5GT | 10 | ABCDEF | 3 | C | |
| 35L6GT | 10 | ABCDEF | 3 | C | |
| 35S 35S/51S | 3 | ABCDEF | 7 | C | |

35W4

Test 1 0 — — — —

Short Indicator Lamp will glow when switch is in position "B", and should go out when all switches are in center position.

Before Test 2, remove tube and set all indicated controls before reinserting tube.

Test 2 10 bgnpE 4 BGNP

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|

35Y4

Test 1 0 — — — —

Short Indicator Lamp will glow when all switches are in center position, and should go out when switch "D" is thrown.

Before Test 2, remove tube and set all indicated controls before reinserting tube.

Test 2 10 dAC 4 CD

| | | | | | |
|--------|----|--------|---|---|--|
| 35Z3 | 10 | ABCDEF | 2 | C | |
| 35Z4GT | 10 | ABCDEF | 1 | C | |

35Z5GT

Test 1 0 — — — —

Short Indicator Lamp will glow when all switches are in center position, and should go out when switch "A" is pushed.

Before Test 2, remove tube and set all indicated controls before reinserting tube.

Test 2 10 aCE 3 AC

| | | | | | |
|----------|----|--------|----|---|---|
| 35Z6G/GT | 10 | ABCDEF | 2 | C | D |
| | | | 2 | D | D |
| 36 | 6 | ABCDEF | 10 | C | |
| 37 | 6 | ABCDEF | 6 | C | |
| 38 | 6 | ABCDEF | 10 | C | |
| 39/44 | 6 | ABCDEF | 6 | C | |
| 40 | 5 | ABCDEF | 6 | | |

30
to
40

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|--------------|------------------------------|--------------|
| 40Z5/45Z5G1 | 0 | — | — | — | — |
| Test 1 Short Indicator Lamp will glow when all switches are in center position, and should go out when switch "A" is pushed. Before Test 2, remove tube and set all indicated controls before reinserting tube. | | | | | |
| Test 2 | 10 | aCE | 3 | AC | |
| 41 | 6 | ABCDEF | 7 | C | |
| 42 | 6 | ABCDEF | 7 | C | |
| 43 | 10 | ABCDEF | 7 | C | |
| 44 | 6 | ABCDEF | 6 | C | |
| 45 | 3 | ABCDEF | 7 | | |
| 45A | 3 | AB | 8 | | |
| 45Z3 | 10 | AFBD | 4 | D | |
| 45Z5 | 0 | — | — | — | — |
| Test 1 Short Indicator Lamp will glow when all switches are in center position and should go out when switch "A" is pushed. Before Test 2, remove tube and set all indicated controls before reinserting tube. | | | | | |
| Test 2 | 10 | aEC | 4 | AC | D |
| 46 | 3 | ABCDEF | 7 | | |
| 47 | 3 | ABCDEF | 6 | C | |
| 48 | 10 | ABCDEF | 3 | C | |
| 49 | 2 | ABCDEF | 6 | | |
| 50 | 7 | ABCDEF | 6 | | |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------|------------------------------|--------------|
| 50A5 | 11 | ABCF | 3 | C | |
| 50B5 | 11 | bnrsAEF | 4 | ABNRS | |
| 50BK5 | 11 | ABCEF | 4 | B | |
| 50C5 | 11 | bnAEFG | 5 | BNR | |
| 50C6G | 11 | ABCDEF | 3 | C | |
| 50L6GT | 11 | ABCDEF | 2 | C | |
| 50X6 | 10 | ABCF | 4 4 | A C | D D |
| 50Y6GT | 11 | ABCDEF | 2 2 | C D | |
| 50Y7GT | <p>Test 1 0 — — — —</p> <p>Short Indicator Lamp will glow when all switches are in center position, and should go out when switch "B" is pushed.</p> <p>Before Test 2, remove tube and set all indicated controls before reinserting tube.</p> | | | | |
| Test 2 | 11 | IACDE | 5 5 | CL DL | D D |
| 50Z7G | 11 | IACDE | 5 5 | DL CL | D D |
| 51 | 3 | ABCDEF | 10 | C | |
| 52 | 6 | ABC | 10 | | |
| 53 | 3 | ABCDEF | 7 7 | ADE BCE | T T |
| 55 | 3 | ABCDEF | 7 8 8 | BCD ABC* ACD* | T D D |

40Z5/
45Z5GT
to
55

*Grid cap off.

| TUBE TYPE | Filament Load | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|---------------|----------------------------|--------------|------------------------------|--------------|
| 56 | 3 | ABCDEF | 2 | C | |
| 56A | 6 | ABCDEF | 2 | C | |
| 57 | 3 | ABCDEF | 7 | C | |
| 58 | 3 | ABCDEF | 7 | C | |
| 59 | 3 | ABCDEF | 7 | C | |
| 64 | 6 | ABCDEF | 7 | C | |
| 65 | 6 | ABCDEF | 6 | C | |
| 67 | 6 | ABCDEF | 10 | C | |
| 68 | 6 | ABCDEF | 7 | C | |
| 69 | 6 | ABCD | 13 13 | BC CD | T T |
| 70A7GT | 11 | cfIADEF | 3 | CFL | |
| 70L7GT | 12 | ABCDEF | 3 3 | ABDEF BCF | D BP |
| 71 | 5 | ABCDEF | 10 | | |
| 75 | 6 | ABCDEF | 7 8 8 | BCD ACD* AEC* | T D D |
| 76 | 6 | ABCDEF | 2 | C | |
| 77 | 6 | ABCDEF | 7 | C | |
| 78 | 6 | ABCDEF | 7 | C | |
| 79 | 6 | ABCDEF | 5 5 | ABD BC* | T T |
| 80 | 5 | ABCDEF | 4 4 | A B | D D |
| 81 | 7 | ABCDEF | 4 | | |

*Grid cap off.

| TUBE TYPE | Filament Load | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|------------|---------------|----------------------------|--------------|------------------------------|--------------|
| 82 | 3 | ABCDEF | 4 4 | A B | D D |
| 83 | 5 | ABCDEF | 4 4 | A B | D D |
| 83V | 5 | ABCDEF | 5 5 | A B | D D |
| 84/6Z4 | 6 | ABCDEF | 7 7 | AC BC | D D |
| 85 | 6 | ABCDEF | 7 8 8 | BCD ABC* ACD* | T D D |
| 89 | 6 | ABCDEF | 5 | C | |
| 95 | 3 | ABCDEF | 7 | C | |
| 99X | 4 | ABCDEF | 9 | | |
| 117L7/M7GT | 13 | ABCDEF | 3 3 | BCF ACDEF | BP D |
| 117N7GT | 13 | mABDE | 4 | BM | |
| 117P7GT | 13 | mABDE | 2 | BM | |
| 117Z3 | 13 | bnsF | 3 | BFNS | |
| 117Z4GT | 13 | CE | 3 | C | |
| 117Z6GT | 13 | BCDF | 3 3 | C D | D D |
| 182B | 5 | ABCDEF | 6 | | |
| 183 | 5 | ABCDEF | 7 | | |
| 482B | 5 | ABCDEF | 6 | | |
| 483 | 5 | ABCDEF | 7 | | |
| 485 | 4 | ABCDEF | 7 | C | |

56
to
485

*Grid cap off.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Lead Control | Toggle Switches Quality Test | Tube Section |
|-----------|---------------------|-------------------------------------|-----------------|---------------------------------------|-----------------|
| 807 | 6 | ABCD | 4 | C | |
| 864 | 1 | AB | 12 | | |
| 884 | 6 | ABCDEF | 3 | C | |
| 885 | 3 | ABCDEF | 5 | C | |
| 879 | 3 | ABCDEF | 2 | T | |
| 950 | 2 | ABCDEF | 4 | | |
| FM10000 | 6 | ABCDEF | 3 | B | |
| 1201 | 6 | asBCDF | 2 | ADFS | |
| 1203A | 6 | CD | 4 | C | |
| 1204/7AB7 | 6 | adfgmB | 10 | ABDFGMS | T |
| 1221 | 6 | ABCDEF | 7 | C | |
| 1223 | 6 | ABCDEF | 7 | C | |
| 1229 | 2 | ABCDEF | 4 | | |
| 1231 | 6 | ABCDEF | 1 | C | |
| 1232 | 6 | ABCDEF | 1 | C | |
| 1273 | 6 | ABCDEF | 5 | C | |
| 1275 | 5 | AB | 10 | A | D |
| | | | 10 | B | D |
| 1280 | 8 | ABCDEF | 5 | C | |
| 1284 | 8 | ABCDEF | 7 | C | |
| 1291 | 1 | dhABC | 4 | ABDH | T |
| | | | 4 | CDFH | T |
| 1293 | 1 | AF | 4 | | |
| 1294 | 1 | ACD | 8 | C | |
| 1603 | 6 | ABCD | 7 | C | |
| 1611 | 6 | ACDEF | 7 | C | |

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|--------------|
| 1612 | 6 | ABCDEF | 7 5 | ACDE C | Os M |
| 1620 | 6 | ABCDEF | 7 | C | |
| 1621 | 6 | ABCDEF | 10 | C | |
| 1622 | 6 | ABCDEF | 7 | C | |
| 1626 | 8 | ACE | 4 | C | |
| 1629 | 8 | ACDE | 4 4 | AC CD | TE T |
| 1631 | 8 | ABCDEF | 5 | C | |
| 1632 | 8 | ABCDEF | 1 | C | |
| 1633 | 8 | csABEFG | 6 6 | ABCF ABCDE | T T |
| 1634 | 8 | cABDEF | 6 6 | ABCH BCDE | T T |
| 1635 | 6 | ABCDE | 7 7 | ACD BCE | T T |
| 1644 | 8 | glACDEF | 4 4 | ADEGL CEFG | P P |
| 1654 | 1 | klp | 11 | KLPT | |
| 1851 | 6 | ABCDEF | 2 | C | |
| 1852 | 6 | ABCDEF | 3 | E | |
| 1853 | 6 | ABCDEF | 3 | E | |
| 2050 | 6 | ABCE | 1 | C | |
| 2051 | † | ABCE | 3 | C | |
| 9001 | 6 | bnr \overline{A} GEFS | 2 | ABGNS | |
| 9002 | 6 | bnre \overline{A} GF | 2 | ABGNS | |
| 9003 | 6 | bnr \overline{A} GEFS | 2 | ABGNS | |

807
to
9003

†Use 0 for SHORT TEST, and 6 for QUALITY TEST.

| TUBE TYPE | Filament Control | Toggle Switches Short Test | Load Control | Toggle Switches Quality Test | Tube Section |
|-----------|------------------|----------------------------|--------------|------------------------------|----------------------------------|
| 9006 | 6 | bnrsAG | 4 | ABGNS | |
| G84 | 3 | ABCDEF | 4 | | |
| RK62 | 1 | AB | 4 | | |
| X-155 | 6 | ABCDEF | 4 4 | ADEF BCEF | T ₁ T ₂ |
| XXB | 1 | cABDEF | 6 6 | AC AM | T T |
| XXD | 8 | ABCDEF | 7 7 | A C | T T |
| XXFM | 6 | ABCDEF | 8 8 4 | ABCDE ABCDF CDEF | D D T |
| XXL | 6 | ABCDEF | 5 | C | |

9006
to
XXL

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|---------------------|---------------------|------------|-----------------|
| 4A1 B'last Tubes | R | 42A2 | C D |
| 6.126 | GS CGS CG | 42B2 | C D |
| 6.129 | GS CGS CG | 42HA | G |
| 6.133 | G | 45-4001‡ | AS CS |
| 6.135 | G | 45-4001-1‡ | AS AES CS |
| 7 | R | 45-4001-2‡ | CS |
| 8 | R | 45-4001-3‡ | AS CS |
| 9 | R | 45-4001-4‡ | AS AES CS |
| 33-3341-1 | R AR ABR | 45-4001-5‡ | CS |
| 33-3377 | F CF | 45-4001-6‡ | AS CS |
| 33-3391 | G GA GS | 45-4001-7‡ | AS AES CS |
| 40 | D | 45-4001-8‡ | CS |
| 40A1 | SG | 45-4001-9‡ | AS CS |
| 40A2 | D F | 45W‡ | D |
| 40B1 | SG | 46A1 | C |
| 40B2 | CANNOT BE TESTED | 46A2 | C D |
| 40W | D | 46B1 | R |
| 40X300 | D | | |
| 42A1 | C | | |

1A1
to
46B1

‡ See Note B before testing tube.

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 46B2 | C D | 55A1 | D |
| 49A1 | C | 55A2 | C D |
| 49A2 | C D | 55B2 | C D |
| 49B2 | C D | 55KB | A G |
| 49KB | A G | 60R30-G | D F |
| 49KC | A G | 69.2033 | A G |
| 49KD | GS CGS CG | 69.2037 | A G |
| 49LB | A G | 80A1 | D |
| 59LC | A G | 80A2 | C D |
| 49LD | GS CGS CG | 80B2 | C D |
| 50 | D | 85LC | A G |
| 50A2 | D | 86A1 | D |
| 50B2 | D F | 86A2 | C D |
| 50W | D | 86B2 | C D |
| 50X3 | D | 92A1 | D |
| 50X3T | D F | 92A2 | C D |
| 50X300 | D | 92B2 | C D |

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 95K2 | A G | 135K1A | D G |
| 100.37 | D G | 140L44 | DS ADS AD |
| 100.38 | D G | 140R | R |
| 100.70 | AM GM C | 140R4 | BHR BGS |
| 100.77 | B | 140R8 | BHR BGS |
| 100.79 | B | 140R44 | DS ADS AD |
| 100.81 | G | 150R | DS ADS AD |
| 115.14 | GS CGS CG | 160LB | A G |
| 115.22 | GS CGS CG | 160LC | A G |
| 115.28 | GS CGS CG | 165KB | A G |
| 115.40 | G | 165LB | A G |
| 115.41 | A G | 165LC | A G |
| 115.42 | GS CGS CG | 165L44 | DS ADS AD |
| 135K1 | A G | | |

46B2
to
165L44

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 165R | R | 2903 | A G |
| 165R4 | BHR BGS | 2904 | A G |
| 165R8 | BHR BGS | 2905 | A G |
| 180KB | A G | 3035 | G |
| 185KB | A G | 3326 | GS CGS CG. |
| 185KD | GS CGS CG | 3334 | DS ADS AD |
| 185LB | A G | 3334A | DS ADS AD |
| 185LC | A G | 3613 | A G |
| 185L44 | DS ADS AD | 5502 | D G |
| 185R | R | 5503 | D G |
| 185R4 | BHR BGS | 5510 | D F |
| 185R8 | BHR BGS | 5512 | D F |
| 185R44 | DS ADS AD | 5514 | A G |
| 340 | D | 5515 | A G |
| 878R48 | D | | |

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 5516 | A G | 5534 | A G |
| 5517 | GS CGS CG | 5535 | A G |
| 5518 | GS CGS CG | 5536 | A G |
| 5519 | A G | 5537 | A G |
| 5520 | A G | 5538 | A G |
| 5521 | A G | 5539 | A G |
| 5522 | A G | 5540 | A G |
| 5523 | A G | 5541 | G |
| 5524 | A G | 5542 | A G |
| 5525 | A G | 5543 | GS CGS CG |
| 5527 | A G | 5544 | A G |
| 5530 | A G | 5547 | A G |
| 5532 | A G | 5548 | A G |
| 5533 | A G | 5549 | GS CGS CG |

165R
to
5549

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 5550 | A G | 5580 | A G |
| 5551 | D G | 5581 | G |
| 5552 | A G | 5584 | C D |
| 5553 | A G | 5586 | AG ACG CFG |
| 5555 | A G | 5587 | GS CGS CG |
| 5556 | A G | 5588 | GS CGS CG |
| 5561 | A G | 5589 | GS CGS CG |
| 5562 | A G | 5590 | D F |
| 5563 | A G | 5592 | C D |
| 5567 | GS CGS CG | 5593 | C D |
| 5571 | D | 5595 | C D |
| 5574 | A G | 5596 | C D |
| 5576 | D G | 5597 | GS CGS CG |
| 5577 | D F | | |
| 5579 | A G | | |

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 5598 | C D | 5612 | D F |
| 5600 | D F | 5613 | AG ACG CFG |
| 5601 | D F | 5614 | D F |
| 5602 | D F | 5615 | D F |
| 5603 | DS ADS AD | 5616 | DS ADS AD |
| 5604 | A G | 5617 | DS ADS AD |
| 5605 | DS ADS AD | 5618 | D F |
| 5606 | D F | 5619 | D F |
| 5607 | D F | 5620 | D F |
| 5608 | DS ADS AD | 5622 | A G |
| 5609 | A G | 5623 | A G |
| 5610 | DS ADS AD | 5624 | A G |
| | | 5625 | A G |

5550
to
5625

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 5626 | GS CGS CG | 5649 | A G |
| 5629 | A G | 5651 | AG ACG CFG |
| 5630 | GS CGS CG | 5652 | GS CGS CG |
| 5633 | GS CGS CG | 5653 | G |
| 5636 | AG R | 5654 | AG ACG CFG |
| 5637 | AG ACG CFG | 5655 | AG ACG CFG |
| 5638 | AG R | 5656 | AG ACG CFG |
| 5640 | AG ACG CFG | 5657 | A G |
| 5641 | AG ACG CFG | 5658 | GS CGS CG |
| 5644 | GS CGS CG | 5660 | A G |
| 5647 | A G | 5662 | D G |
| 5648 | A G | 5663 | D G |
| | | 5664 | G |

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|--------------------|
| 5666 | AG R | 5695 | A G |
| 5667 | A G | 5696 | A G |
| 5675 | A G | 5697 | A G |
| 5676 | A G | 5698 | A G |
| 5679 | G | 5699 | GS CGS CG |
| 5681 | C | 5700 | A G |
| 5682 | C | 5701 | G |
| 5683 | C | 5702 | AG ACG CFG |
| 5684 | G | 5703 | A G |
| 5685 | G | 5704 | AG R |
| 5686 | G | 5705 | GS CGS CG |
| 5687 | G | 5707 | A G |
| 5689 | A G | 5708 | A G |
| 5690 | AG R | 5710 | A G |
| 5691 | AG R | | |
| 5692 | D G | | |
| 5693 | AG ACG CFG | | |
| 5694 | D G | | |

5626
to
5710

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--------------|---------------------------------|
| 5711 | AG ACG CFG | 819662 | A G |
| 5712 | A G | A16040 | A G |
| 5714 | AG ACG CFG | BK42C | A G |
| 8589 | A G | BK42D | GS CGS CG |
| 8593 | A G | BK49C | A G |
| 8598 | A G | BK49D | GS CGS CG |
| 16032 | A G | BK49D-10 | GS CGS CG |
| 16035 | A G | BK55B | A G |
| 16036 | A G | BK55C | A G |
| 16039 | A G | BK55D | GS CGS CG |
| 38710 | A G | BKU126D | R AR ADR ABDR ABCDR |
| 45788 | G | | |
| 69-2033 | A G | | |
| 69-2037 | A G | | |

| TUBE TYPE | TOGGLE SWITCHES | TUBE TYPE | TOGGLE SWITCHES |
|--------------|------------------------|--------------|------------------------|
| BKU172B | DRS BDRS BCDRS | K40C | A G |
| BKV51DJ | R AR ABR ABCR | K40D | GS CGS CG |
| BKX11BJ | AR ARB ARS | K42B-BG | A G |
| BKX21BJ | ARS AR ARB | K42C-CG | A G |
| BL42B | A G | K42D-DG | GS CGS CG |
| BL42C | A G | K42E | GS CGS CG ECG |
| BL42D | GS CGS CG | K42E1 | GS CGS CG ECG |
| BL49B | A G | K43B | A G |
| BL49C | A G | K43B2 | A G |
| BL49D | GS CGS CG | K49B | A G |
| G133 | D | K49C | A G |
| K13T56 | A G | K49D | GS CGS CG |

5711
to
K49D

| TUBE TYPE | TOGGLE SWITCHES | | TUBE TYPE | TOGGLE SWITCHES |
|--------------|--------------------|--|--------------|--------------------|
| K50C | A G | | L495.5C | A G |
| K54B | A G | | MT30A | A G |
| K55B-BG | A G | | YTU9 | A G |
| K55C | A G | | YTD16040 | A G |
| K55D | GS CGS CG | | W143357 | A G |
| KY49C | A G | | XB90 | D F |
| L42B-BG | A G | | | |
| L42C-CG | A G | | | |
| L42D-DG | GS CGS CG | | | |
| L49B | A G | | | |
| L49C | A G | | | |
| L49D | GS CGS CG | | | |
| L455.5C | A G | | | |

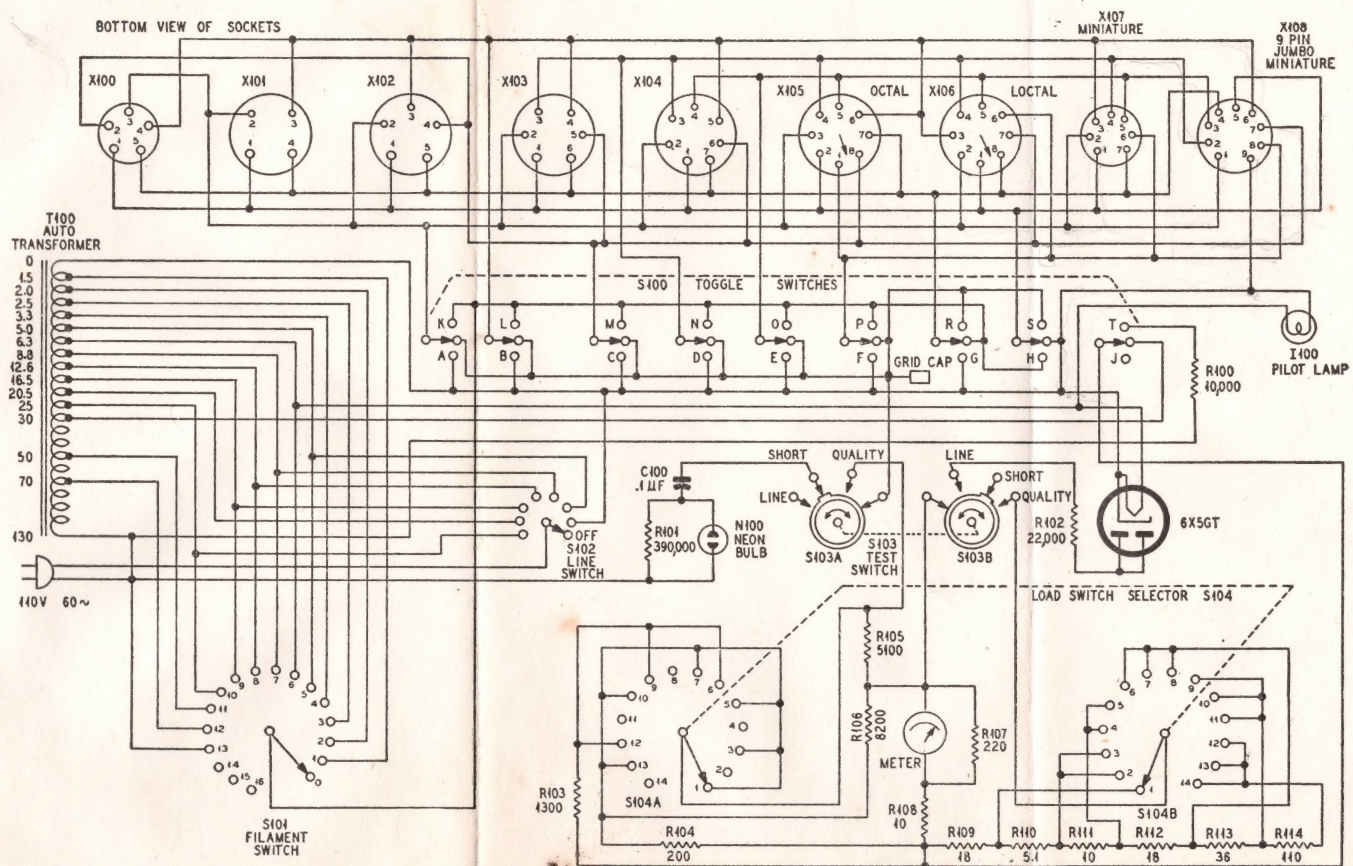
K50C
to
XB90

REPLACEMENT PARTS LIST FOR PHILCO MODEL 7051 TUBE TESTER

| Reference Symbol | Description | Part No. |
|---------------------|--------------------------------------------------------|------------|
| C100 | Condenser, .1 mf, 400 volts | 61-0113 |
| I100 | Lamp, pilot | 34-2085 |
| N100 | Lamp, neon | 34-2482 |
| R100 | Resistor, 10,000 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-3108240 |
| R101 | Resistor, 390,000 ohms $\pm 10\%$, $\frac{1}{2}$ watt | 66-4398340 |
| R102 | Resistor, 22,000 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-3228340 |
| R103 | Resistor, 1300 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-2138240 |
| R104 | Resistor, 200 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-1203240 |
| R105 | Resistor, 5100 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-2518240 |
| R106 | Resistor, 8200 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-2828240 |
| R107 | Resistor, 220 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-1223240 |
| R108 | Resistor, 10 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-0103240 |
| R109 | Resistor, 18 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-0183240 |
| R110 | Resistor, 5.1 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-9513240 |
| R111 | Resistor, 10 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-0103240 |
| R112 | Resistor, 18 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-0183240 |
| R113 | Resistor, 36 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-0363240 |
| R114 | Resistor, 110 ohms $\pm 5\%$, $\frac{1}{2}$ watt | 66-1113240 |
| S100 | Toggle-switch-and-rivet assembly | 76-5518 |
| | Toggle switch (9 required) | 42-1584 |
| | Toggle-switch knob | 27-4781 |
| | Toggle-switch mtg. plate | 56-2693 |
| S101 | Switch, filament selector | 42-1583 |
| S102 | Switch, line adjustment | 42-1594 |
| S103 | Switch, test | 42-1588 |
| | S103A: Part of S103 | |
| | S103B: Part of S103 | |
| S104 | Switch, load selector | 42-1764 |
| | S104A: Part of S104 | |
| | S104B: Part of S104 | |
| T100 | Transformer, power | 32-8118 |
| X100 | Socket, 5-prong bantam | 27-6147 |
| X101 | Socket, 4-prong | 27-6110 |
| X102 | Socket, 5-prong | 27-6111 |
| X103 | Socket, 6-prong | 27-6112 |
| X104 | Socket, 7-prong | 27-6155 |
| X105 | Socket, octal | 27-6114 |
| X106 | Socket, Loktal | 27-6148 |
| X107 | Socket, 7-prong miniature | 27-6146 |
| X108 | Socket, 9-prong-jumbo miniature | 27-6203-9 |

MISCELLANEOUS

| Description | Part No. |
|------------------------------------------|----------|
| Socket, octal (rectifier) | 27-6199 |
| Socket mounting bracket | 56-2694 |
| A-C cord | L-3337 |
| Meter | 45-3013 |
| Lugs (meter mounting) | L1843FE9 |
| Knob (4 required) | 54-4281 |
| Grid-cap-and-lead assembly | 76-1965 |
| Lamp socket (neon lamp) | 27-6210 |
| Bull's-eye, lamp-socket assembly (pilot) | 76-1658 |
| Terminal-panel assembly | 76-5519 |
| Front-panel assembly | 56-2692 |
| Housing assembly | 76-1666 |
| Nameplate | 56-3106 |
| Felt foot (8 required) | 54-4240 |
| Switch-key plate (2 required) | 56-3099 |
| Log-folder assembly | 76-2426 |
| Ball strike | 56-3748 |



Schematic Diagram of Philco Model 7051 Tube Tester